ABSTRACT

5   **Data Storage Method for use in a**
Magnetoresistive Solid-state Storage Device

A magnetoresistive solid-state storage device (MRAM)
10   performs error correction coding (ECC) of stored
information. Since currently available MRAM devices are
subject to physical failures, data storage arrangements
are described to minimise the affect of those failures on
the stored ECC encoded data, including storing all bits of
15   each symbol in storage cells 16 in one row 12 (Figure 3),
or in at least two rows 12 but using storage cells 16 in
the same columns 14 (Figure 4). Sets of bits taken from
each row 12 are allocated to different codewords 204
(Figure 5) and the order of allocation can be rotated
20   (Figure 6). A second level of error checking can be
applied by adding a parity bit 226 to each symbol 206
(Figure 7).

25   [Figure 1]